

**I CLAIM:**

1. A paper-making method including:  
defining a two-dimensional signal that encodes plural bits of data;  
5 defining a frequency-domain signal;  
inverse transforming the frequency-domain signal to yield a pattern in the spatial domain; and  
shaping an element of the paper-making apparatus in accordance with said spatial domain pattern; and  
10 shaping the element of a paper-making apparatus in accordance with a pattern corresponding to said signal.
2. The method of claim 1 in which the element is a de-watering element.
- 15 3. The method of claim 1 in which the two-dimensional signal defines said pattern in the spatial domain.
4. The method of claim 3 further comprising combining the spatial domain pattern and the signal.
- 20 5. The method of claim 1, wherein said shaping steps impart a steganographic pattern on the element.

6. A de-watering element for a paper-making apparatus, characterized in that its surface topology is patterned in accordance with the following method:

defining a two-dimensional signal that encodes plural bits of data;

defining a frequency-domain signal;

5 inverse transforming the frequency-domain signal to yield a pattern in the spatial domain; and

shaping an element of the paper-making apparatus in accordance with said spatial domain pattern; and

shaping the element of a paper-making apparatus in accordance with a pattern  
10 corresponding to said signal.

7. The element of claim 6 in which the frequency-domain signal comprises plural impulses.

15 8. The element of claim 6 in which the two-dimensional signal defines said pattern in the spatial domain.

9. The element of claim 6, wherein the shaping of the element imparts a steganographic pattern on the element.

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10. A method of marking a paper document comprising:

receiving a first signal comprising plural encoded bits of data;

receiving a second signal comprising an orientation component, the orientation component corresponding to a predetermined frequency domain orientation component;

5 and

in a paper document production process, including a step that imparts into a surface topology of the paper document the first signal and the second signal to thereby steganographically mark the paper document.

10 11. The method of claim 10, wherein the orientation component comprises plural impulses.